

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
17 February 2005 (17.02.2005)

PCT

(10) International Publication Number
WO 2005/015060 A1

(51) International Patent Classification⁷: **F16H 61/00**

(21) International Application Number:
PCT/GB2004/002376

(22) International Filing Date: 3 June 2004 (03.06.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0316382.1 12 July 2003 (12.07.2003) GB

(71) Applicant (for all designated States except US): **TORO-
TRAK (DEVELOPMENT) LIMITED** [GB/GB]; 1 As-
ton Way, Leyland, Lancashire PR26 7UX (GB).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **MURRAY, Stephen,
William** [GB/GB]; St. Michaels, Preston Road, Grimsargh
PR2 5SD (GB).

(74) Agent: **W.P. THOMPSON & CO**; Coopers Building,
Church Street, Liverpool L1 3AB (GB).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AI., AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HN, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

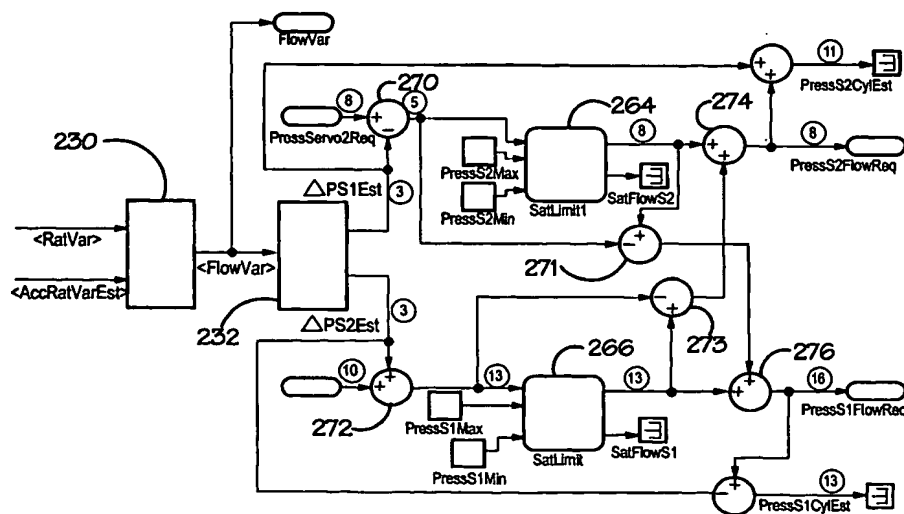
(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: CONTINUOUSLY VARIABLE RATIO TRANSMISSION ASSEMBLY AND METHOD OF CONTROL OF SAME



(57) Abstract: There is disclosed a continuously variable ratio transmission assembly ("variator") comprising a roller which transmits drive between a pair of races, the roller being movable in accordance with changes in variator ratio, a hydraulic actuator which applies a biasing force to the roller, at least one valve connected to the actuator through a hydraulic line to control pressure applied to the actuator and so to control the biasing force, and an electronic control which determines the required biasing force and sets the valve accordingly, characterised in that the valve setting is additionally dependent upon a rate of flow in the hydraulic line.